

WEST Search History

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L3 amylase with bacillus with (ksm-k38 or bp-6946 or k38amy) 5

END OF SEARCH HISTORY

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Search Results - Record(s) 1 through 5 of 5 returned.

1. Document ID: US 20040265959 A1

Using default format because multiple data bases are involved.

L3: Entry 1 of 5

File: PGPB

Dec 30, 2004

PGPUB-DOCUMENT-NUMBER: 20040265959

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20040265959 A1

TITLE: Highly productive alpha-amylases

PUBLICATION-DATE: December 30, 2004

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Araki, Hiroyuki	Tochigi		JP	
Endo, Keiji	Tochigi		JP	
Hagihara, Hiroshi	Tochigi		JP	
Igarashi, Kazuaki	Tochigi		JP	
Hayashi, Yasuhiro	Tochigi		JP	
Ozaki, Katsuya	Tochigi		JP	

US-CL-CURRENT: 435/69.1; 435/204, 435/252.3, 435/320.1, 510/320, 536/23.2

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KM/C	Drawn De
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2. Document ID: US 20040091994 A1

L3: Entry 2 of 5

File: PGPB

May 13, 2004

PGPUB-DOCUMENT-NUMBER: 20040091994

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20040091994 A1

TITLE: Alpha-amylase variant with altered properties

PUBLICATION-DATE: May 13, 2004

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Andersen, Carsten	Vaerlose		DK	

US-CL-CURRENT: 435/202; 435/252.3, 435/320.1, 435/69.1, 510/220, 510/320, 536/23.2

[Full](#) | [Title](#) | [Citation](#) | [Front](#) | [Review](#) | [Classification](#) | [Date](#) | [Reference](#) | [Sequences](#) | [Attachments](#) | [Claims](#) | [KMIC](#) | [Drawn](#) | [Detailed](#)

 3. Document ID: US 20020123124 A1

L3: Entry 3 of 5

File: PGPB

Sep 5, 2002

PGPUB-DOCUMENT-NUMBER: 20020123124

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20020123124 A1

TITLE: Highly productive alpha-amylases

PUBLICATION-DATE: September 5, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Araki, Hiroyuki	Haga-gun		JP	
Endo, Keiji	Haga-gun		JP	
Hagihara, Hiroshi	Haga-gun		JP	
Igarashi, Kazuaki	Haga-gun		JP	
Hayashi, Yasuhiro	Haga-gun		JP	
Ozaki, Katsuya	Haga-gun		JP	

US-CL-CURRENT: 435/202; 435/320.1, 435/325, 435/69.1, 536/23.2

[Full](#) | [Title](#) | [Citation](#) | [Front](#) | [Review](#) | [Classification](#) | [Date](#) | [Reference](#) | [Sequences](#) | [Attachments](#) | [Claims](#) | [KMIC](#) | [Drawn](#) | [Detailed](#)

 4. Document ID: US 6743616 B2

L3: Entry 4 of 5

File: USPT

Jun 1, 2004

US-PAT-NO: 6743616

DOCUMENT-IDENTIFIER: US 6743616 B2

** See image for Certificate of Correction **

TITLE: Highly productive alpha-amylases

[Full](#) | [Title](#) | [Citation](#) | [Front](#) | [Review](#) | [Classification](#) | [Date](#) | [Reference](#) | [Sequences](#) | [Attachments](#) | [Claims](#) | [KMIC](#) | [Drawn](#) | [Detailed](#)

 5. Document ID: US 20040091994 A1, WO 200231124 A2, AU 200210380 A, EP 1326965 A2

L3: Entry 5 of 5

File: DWPI

May 13, 2004

DERWENT-ACC-NO: 2002-463264

DERWENT-WEEK: 200432

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TITLE: KSM-K36 or KSM-K38 variant from Bacillus for cleaning dishes, textile desizing, starch liquefaction and ethanol production has alpha-amylase activity

[Full](#) | [Title](#) | [Citation](#) | [Front](#) | [Review](#) | [Classification](#) | [Date](#) | [Reference](#) | [Search](#) | [Help](#) | [Claims](#) | [KUMC](#) | [Drawn](#) | [De](#)

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[Print](#)

[Fwd Refs](#)

[Bkwd Refs](#)

[Generate OACS](#)

Terms

Documents

amylase with bacillus with (ksm-k38 or bp-6946 or k38amy)

5

Display Format: [-] [Change Format](#)

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NEWS 4 FEB 28 BABS - Current-awareness alerts (SDIs) available
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NEWS 7 MAR 03 MEDLINE file segment of TOXCENTER reloaded
NEWS 8 MAR 22 KOREAPAT now updated monthly; patent information enhanced
NEWS 9 MAR 22 Original IDE display format returns to REGISTRY/ZREGISTRY
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NEWS 11 MAR 22 REGISTRY/ZREGISTRY enhanced with experimental property tags
NEWS 12 APR 04 EPFULL enhanced with additional patent information and new fields
NEWS 13 APR 04 EMBASE - Database reloaded and enhanced
NEWS 14 APR 18 New CAS Information Use Policies available online
NEWS 15 APR 25 Patent searching, including current-awareness alerts (SDIs), based on application date in CA/CAplus and USPATFULL/USPAT2 may be affected by a change in filing date for U.S. applications.
NEWS 16 APR 28 Improved searching of U.S. Patent Classifications for U.S. patent records in CA/CAplus
NEWS 17 MAY 23 GBFULL enhanced with patent drawing images
NEWS 18 MAY 23 REGISTRY has been enhanced with source information from CHEMCATS
NEWS 19 JUN 06 The Analysis Edition of STN Express with Discover! (Version 8.0 for Windows) now available
NEWS 20 JUN 13 RUSSIAPAT: New full-text patent database on STN
NEWS 21 JUN 13 FRFULL enhanced with patent drawing images
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=> s amylase (5a) bacillus (5a) (ksm-k38 or bp-6946 or k38amy)

3 FILES SEARCHED...

L1 26 AMYLASE (5A) BACILLUS (5A) (KSM-K38 OR BP-6946 OR K38AMY)

=> dup rem l1

PROCESSING COMPLETED FOR L1

L2 10 DUP REM L1 (16 DUPLICATES REMOVED)

=> d 1-10

L2 ANSWER 1 OF 10 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 2005:207942 HCAPLUS

DN 142:331573

TI An oxidation stable and chelator-resistant, calcium-free .alpha.-
amylase from the alkaliphilic ***Bacillus*** isolate
KSM - ***K38***

AU Hagihara, Hiroshi

CS Biol. Sci. Lab., Kao Corp., Tochigi, 321-3497, Japan

SO Journal of Applied Glycoscience (2005), 52(1), 51-58

CODEN: JAGLFX; ISSN: 1344-7882

PB Japanese Society of Applied Glycoscience

DT Journal; General Review

LA Japanese

L2 ANSWER 2 OF 10 MEDLINE on STN

DUPLICATE 1

AN 2003316377 MEDLINE

DN PubMed ID: 12719434
TI Crystal structure of calcium-free alpha- ***amylase*** from ***Bacillus*** sp. strain ***KSM*** - ***K38*** (AmyK38) and its sodium ion binding sites.
AU Nonaka Tsuyoshi; Fujihashi Masahiro; Kita Akiko; Hagihara Hiroshi; Ozaki Katsuya; Ito Susumu; Miki Kunio
CS Department of Chemistry, Graduate School of Science, Kyoto University, Sakyo-ku, Japan.
SO Journal of biological chemistry, (2003 Jul 4) 278 (27) 24818-24.
Electronic Publication: 2003-04-28.
Journal code: 2985121R. ISSN: 0021-9258.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
OS PDB-1UD2; PDB-1UD3; PDB-1UD4; PDB-1UD5; PDB-1UD6; PDB-1UD8
EM 200308
ED Entered STN: 20030709
Last Updated on STN: 20030819
Entered Medline: 20030818

L2 ANSWER 3 OF 10 BIOTECHDS COPYRIGHT 2005 THE THOMSON CORP. on STN
DUPLICATE 2
AN 2002-16321 BIOTECHDS
TI KSM-K36 or KSM-K38 variant from Bacillus for cleaning dishes, textile desizing, starch liquefaction and ethanol production has alpha-amylase activity;
plasmid-mediated recombinant mutant enzyme gene transfer and expression in Bacillus sp.
AU ANDERSEN C
PA NOVOZYMES AS
PI WO 2002031124 18 Apr 2002
AI WO 2000-DK668 13 Oct 2000
PRAI US 2001-326752 3 Oct 2001
DT Patent
LA English
OS WPI: 2002-463264 [49]

L2 ANSWER 4 OF 10 HCPLUS COPYRIGHT 2005 ACS on STN
AN 2002:284478 HCPLUS
DN 136:305146
TI Recombinant mutant alkalophilic Bacillus .alpha.-amylase with improved thermostability, recombinant expression, and detergent use
IN Araki, Hiroyuki; Endo, Keiji; Hagiwara, Hiroshi; Igarashi, Kazuaki; Hayashi, Yasuhiro; Ozaki, Katsuya
PA Kao Corp., Japan
SO Jpn. Kokai Tokkyo Koho, 28 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------|---|------|----------|-----------------|----------|
| PI | JP 2002112792 | A2 | 20020416 | JP 2000-310605 | 20001011 |
| | US 2002123124 | A1 | 20020905 | US 2001-971611 | 20011009 |
| | US 6743616 | B2 | 20040601 | | |
| | EP 1199356 | A2 | 20020424 | EP 2001-123378 | 20011010 |
| | EP 1199356 | A3 | 20020515 | | |
| | R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR | | | | |
| | CN 1348000 | A | 20020508 | CN 2001-141253 | 20011011 |
| | US 2004265959 | A1 | 20041230 | US 2004-798278 | 20040312 |
| PRAI | JP 2000-310605 | A | 20001011 | | |
| | US 2001-971611 | A1 | 20011009 | | |

L2 ANSWER 5 OF 10 HCPLUS COPYRIGHT 2005 ACS on STN
AN 2002:660551 HCPLUS
DN 137:212837
TI Improvement of thermostability of a calcium-free .alpha.-amylase from an alkaliphilic Bacillus sp. by protein engineering
AU Hagihara, Hiroshi; Igarashi, Kazuaki; Hayashi, Yasuhiro; Kitayama, Kaori; Endo, Keiji; Ozawa, Tadahiro; Ozaki, Katsuya; Kawai, Shuji; Ito, Susumu

CS Tochigi Research Laboratories, Kao Corporation, Tochigi, 321-3497, Japan
SD Journal of Applied Glycoscience (2002), 49(3), 281-289
CODEN: JAGLFX; ISSN: 1344-7882
PB Japanese Society of Applied Glycoscience
DT Journal
LA English

L2 ANSWER 6 OF 10 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 2001:10699 HCAPLUS

DN 134:82718

TI Mutant .alpha.-amylases with improved thermal stability for use in detergents

IN Endo, Keiji; Igarashi, Kazuaki; Hayashi, Yasuhiro; Hagihara, Hiroshi; Ozaki, Katsuya

PA Kao Corp., Japan

SO Eur. Pat. Appl., 28 pp.

CODEN: EPXXDW

DT Patent

LA English

FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------|---|------|----------|-----------------|----------|
| PI | EP 1065277 | A1 | 20010103 | EP 2000-111911 | 20000613 |
| | R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO | | | | |
| | JP 2001054392 | A2 | 20010227 | JP 2000-170517 | 20000607 |
| | CN 1277258 | A | 20001220 | CN 2000-118140 | 20000609 |
| PRAI | JP 1999-163569 | A | 19990610 | | |

RE.CNT 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L2 ANSWER 7 OF 10 MEDLINE on STN DUPLICATE 3

AN 2001403199 MEDLINE

DN PubMed ID: 11453991

TI Deduced amino-acid sequence of a calcium-free alpha-amylase from a strain of *Bacillus*: implications from molecular modeling of high oxidation stability and chelator resistance of the enzyme.

AU Hagihara H; Hayashi Y; Endo K; Igarashi K; Ozawa T; Kawai S; Ozaki K; Ito S

CS Tochigi Research Laboratories of Kao Corporation, Ichikai, Haga, Japan.

SO European journal of biochemistry / FEBS, (2001 Jul) 268 (14) 3974-82.

Journal code: 0107600. ISSN: 0014-2956.

CY Germany: Germany, Federal Republic of

DT Journal; Article; (JOURNAL ARTICLE)

LA English

FS Priority Journals

OS GENBANK-AB051102

EM 200108

ED Entered STN: 20010820

Last Updated on STN: 20010820

Entered Medline: 20010816

L2 ANSWER 8 OF 10 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 2001:263361 HCAPLUS

DN 135:15848

TI Novel .alpha.-amylase that is highly resistant to chelating reagents and chemical oxidants from the alkaliphilic *Bacillus* isolate KSM-K38

AU Hagihara, Hiroshi; Igarashi, Kazuaki; Hayashi, Yasuhiro; Endo, Keiji; Ikawa-Kitayama, Kaori; Ozaki, Katsuya; Kawai, Shuji; Ito, Susumu

CS Tochigi Research Laboratories of Kao Corporation, Tochigi, 321-3497, Japan

SO Applied and Environmental Microbiology (2001), 67(4), 1744-1750

CODEN: AEMIDF; ISSN: 0099-2240

PB American Society for Microbiology

DT Journal

LA English

RE.CNT 39 THERE ARE 39 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L2 ANSWER 9 OF 10 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 2000:452371 HCAPLUS

DN 133:70699

TI Novel oxidizing agents-resistant alkaline amylase from *Bacillus* and its

use for preparation of detergents

IN Hagiwara, Hiroshi; Kitayama, Kaori; Hayashi, Yasuhiro; Igarashi, Kazuaki;
Endo, Keiji; Ozaki, Katsuya

PA Kao Corp., Japan

SO Jpn. Kokai Tokkyo Koho, 13 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 2

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------|----------------|------|----------|--|----------|
| PI | JP 2000184883 | A2 | 20000704 | JP 1998-362488 | 19981221 |
| | US 6403355 | B1 | 20020611 | US 1999-465519 | 19991216 |
| | EP 1022334 | A2 | 20000726 | EP 1999-125399 | 19991220 |
| | EP 1022334 | A3 | 20020807 | R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
IE, SI, LT, LV, FI, RO | |
| | CN 1257917 | A | 20000628 | CN 1999-126451 | 19991221 |
| | US 2002197698 | A1 | 20021226 | US 2002-136272 | 20020502 |
| | US 6916645 | B2 | 20050712 | | |
| PRAI | JP 1998-362487 | A | 19981221 | | |
| | JP 1998-362488 | A | 19981221 | | |
| | US 1999-465519 | A3 | 19991216 | | |

L2 ANSWER 10 OF 10 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 2000:452370 HCAPLUS

DN 133:86088

TI Novel chelating agents-resistant alkaline amylase from Bacillus and its
use for preparation of detergents

IN Hagiwara, Hiroshi; Kitayama, Kaori; Hayashi, Yasuhiro; Igarashi, Kazuaki;
Endo, Keiji; Ozaki, Katsuya

PA Kao Corp., Japan

SO Jpn. Kokai Tokkyo Koho, 20 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 2

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------|----------------|------|----------|--|----------|
| PI | JP 2000184882 | A2 | 20000704 | JP 1998-362487 | 19981221 |
| | US 6403355 | B1 | 20020611 | US 1999-465519 | 19991216 |
| | EP 1022334 | A2 | 20000726 | EP 1999-125399 | 19991220 |
| | EP 1022334 | A3 | 20020807 | R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
IE, SI, LT, LV, FI, RO | |
| | CN 1257917 | A | 20000628 | CN 1999-126451 | 19991221 |
| | US 2002197698 | A1 | 20021226 | US 2002-136272 | 20020502 |
| | US 6916645 | B2 | 20050712 | | |
| PRAI | JP 1998-362487 | A | 19981221 | | |
| | JP 1998-362488 | A | 19981221 | | |
| | US 1999-465519 | A3 | 19991216 | | |

=> d 9, 10 ab

L2 ANSWER 9 OF 10 HCAPLUS COPYRIGHT 2005 ACS on STN

AB A novel oxidizing agents-resistant alk. liquefaction-type ***amylase***
has been prep'd. from ***Bacillus*** strains KSM-K36 and ***KSM*** -
K38, resp. The enzyme exhibits a pH optimum >8.0, temp. optimum
50-60.degree., pI 4.2, and mol. wt. 55,000.+-.5,000 by SDS-PAGE. The
enzyme remains >70% active after incubating at pH 10, 30.degree., for 60
min in the presence of 2% H₂O₂. Use of the amylase for the prepn. of
laundry or dish wash detergents is also described.

L2 ANSWER 10 OF 10 HCAPLUS COPYRIGHT 2005 ACS on STN

AB A novel chelating agents-resistant, alk. liquefaction-type ***amylase***
has been prep'd. from ***Bacillus*** strains KSM-K36 and ***KSM*** -
K38, resp. The enzyme exhibits a pH optimum >8.0, temp. optimum
50-60.degree., pI 4.2, and mol. wt. 55,000.+-.5,000 by SDS-PAGE. The
enzyme remains >70% active after incubating at pH 10, 45.degree., for 30
min in the presence of 1-100 mM EDTA or EGTA. Use of the amylase for the
prepn. of laundry or dish wash detergents is also described. The genes

encoding for the ***amylase*** are also isolated from ***Bacillus*** strains KSM-K36 and ***KSM*** - ***K38*** , resp.

=> dis his

(FILE 'HOME' ENTERED AT 18:06:40 ON 05 AUG 2005)

FILE 'MEDLINE, SCISEARCH, LIFESCI, BIOTECHDS, BIOSIS, EMBASE, HCPLUS, NTIS, ESBIOS, BIOTECHNO, WPIDS' ENTERED AT 18:06:59 ON 05 AUG 2005

L1 26 S AMYLASE (5A) BACILLUS (5A) (KSM-K38 OR BP-6946 OR K38AMY)
L2 10 DUP REM L1 (16 DUPLICATES REMOVED)

=> s l1 and (muta? or variant)

4 FILES SEARCHED...

5 FILES SEARCHED...

8 FILES SEARCHED...

L3 14 L1 AND (MUTA? OR VARIANT)

=> dup rem 13

PROCESSING COMPLETED FOR L3

L4 5 DUP REM L3 (9 DUPLICATES REMOVED)

=> d 1-5

L4 ANSWER 1 OF 5 MEDLINE on STN DUPLICATE 1
AN 2003316377 MEDLINE
DN PubMed ID: 12719434
TI Crystal structure of calcium-free alpha- ***amylase*** from ***Bacillus*** sp. strain ***KSM*** - ***K38*** (AmyK38) and its sodium ion binding sites.
AU Nonaka Tsuyoshi; Fujihashi Masahiro; Kita Akiko; Hagiwara Hiroshi; Ozaki Katsuya; Ito Susumu; Miki Kunio
CS Department of Chemistry, Graduate School of Science, Kyoto University, Sakyo-ku, Japan.
SO Journal of biological chemistry, (2003 Jul 4) 278 (27) 24818-24.
Electronic Publication: 2003-04-28.
Journal code: 2985121R. ISSN: 0021-9258.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
OS PDB-1UD2; PDB-1UD3; PDB-1UD4; PDB-1UD5; PDB-1UD6; PDB-1UD8
EM 200308
ED Entered STN: 20030709
Last Updated on STN: 20030819
Entered Medline: 20030818

L4 ANSWER 2 OF 5 BIOTECHDS COPYRIGHT 2005 THE THOMSON CORP. on STN
DUPLICATE 2

AN 2002-16321 BIOTECHDS
TI KSM-K36 or KSM-K38 ***variant*** from Bacillus for cleaning dishes, textile desizing, starch liquefaction and ethanol production has alpha-amylase activity;
plasmid-mediated recombinant ***mutant*** enzyme gene transfer and expression in Bacillus sp.

AU ANDERSEN C
PA NOVOZYMES AS
PI WO 2002031124 18 Apr 2002
AI WO 2000-DK668 13 Oct 2000
PRAI US 2001-326752 3 Oct 2001
DT Patent
LA English
OS WPI: 2002-463264 [49]

L4 ANSWER 3 OF 5 HCPLUS COPYRIGHT 2005 ACS on STN
AN 2002:284478 HCPLUS
DN 136:305146

TI Recombinant ***mutant*** alkalophilic Bacillus .alpha.-amylase with improved thermostability, recombinant expression, and detergent use
IN Araki, Hiroyuki; Endo, Keiji; Hagiwara, Hiroshi; Igarashi, Kazuaki; Hayashi, Yasuhiro; Ozaki, Katsuya

PA Kao Corp., Japan
 SQ Jpn. Kokai Tokkyo Koho, 28 pp.
 CODEN: JKXXAF
 DT Patent
 LA Japanese
 FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------|--|------|----------|-----------------|----------|
| PI | JP 2002112792 | A2 | 20020416 | JP 2000-310605 | 20001011 |
| | US 2002123124 | A1 | 20020905 | US 2001-971611 | 20011009 |
| | US 6743616 | B2 | 20040601 | | |
| | EP 1199356 | A2 | 20020424 | EP 2001-123378 | 20011010 |
| | EP 1199356 | A3 | 20020515 | | |
| | R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
IE, SI, LT, LV, FI, RO, MK, CY, AL, TR | | | | |
| | CN 1348000 | A | 20020508 | CN 2001-141253 | 20011011 |
| | US 2004265959 | A1 | 20041230 | US 2004-798278 | 20040312 |
| PRAI | JP 2000-310605 | A | 20001011 | | |
| | US 2001-971611 | A1 | 20011009 | | |

L4 ANSWER 4 OF 5 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 2002:660551 HCAPLUS

DN 137:212837

TI Improvement of thermostability of a calcium-free .alpha.-amylase from an alkaliphilic Bacillus sp. by protein engineering

AU Hagihara, Hiroshi; Igarashi, Kazuaki; Hayashi, Yasuhiro; Kitayama, Kaori; Endo, Keiji; Ozawa, Tadahiro; Ozaki, Katsuya; Kawai, Shuji; Ito, Susumu

CS Tochigi Research Laboratories, Kao Corporation, Tochigi, 321-3497, Japan

SO Journal of Applied Glycoscience (2002), 49(3), 281-289

CODEN: JAGLFX; ISSN: 1344-7882

PB Japanese Society of Applied Glycoscience

DT Journal

LA English

L4 ANSWER 5 OF 5 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 2001:10699 HCAPLUS

DN 134:82718

TI ***Mutant*** .alpha.-amylases with improved thermal stability for use in detergents

IN Endo, Keiji; Igarashi, Kazuaki; Hayashi, Yasuhiro; Hagihara, Hiroshi; Ozaki, Katsuya

PA Kao Corp., Japan

SO Eur. Pat. Appl., 28 pp.

CODEN: EPXXDW

DT Patent

LA English

FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------|--|------|----------|-----------------|----------|
| PI | EP 1065277 | A1 | 20010103 | EP 2000-111911 | 20000613 |
| | R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
IE, SI, LT, LV, FI, RO | | | | |
| | JP 2001054392 | A2 | 20010227 | JP 2000-170517 | 20000607 |
| | CN 1277258 | A | 20001220 | CN 2000-118140 | 20000609 |
| PRAI | JP 1999-163569 | A | 19990610 | | |

RE.CNT 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD

ALL CITATIONS AVAILABLE IN THE RE FORMAT

=> dis his

(FILE 'HOME' ENTERED AT 18:06:40 ON 05 AUG 2005)

FILE 'MEDLINE, SCISEARCH, LIFESCI, BIOTECHDS, BIOSIS, EMBASE, HCAPLUS, NTIS, ESBIOSBASE, BIOTECHNO, WPIDS' ENTERED AT 18:06:59 ON 05 AUG 2005

L1 26 S AMYLASE (5A) BACILLUS (5A) (KSM-K38 OR BP-6946 OR K38AMY)

L2 10 DUP REM L1 (16 DUPLICATES REMOVED)

L3 14 S L1 AND (MUTA? OR VARIANT)

L4 5 DUP REM L3 (9. DUPLICATES REMOVED)

=> log h

COST IN U.S. DOLLARS

SINCE FILE

TOTAL

| | | |
|--|----------------|------------------|
| FULL ESTIMATED COST | ENTRY
42.09 | SESSION
42.30 |
| DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS) | SINCE FILE | TOTAL |
| CA SUBSCRIBER PRICE | ENTRY
-1.46 | SESSION
-1.46 |

SESSION WILL BE HELD FOR 60 MINUTES
STN INTERNATIONAL SESSION SUSPENDED AT 18:16:00 ON 05 AUG 2005